

Amendments to the Specification

Please replace the title with the following amended title:

Method for Forming a Carbon Deposit Inhibiting
Thermal Barrier Coating for Combustors

After the title of the invention, and before the heading "BACKGROUND OF THE INVENTION," insert the following:

CROSS REFERENCE TO RELATED APPLICATION

This is a divisional application of U.S. Application no. 09/932,246, filed August 16, 2001.

Please replace paragraph [013] with the following amended paragraph:

[013] The coating of this invention further includes a layer 14 of carbon deposit inhibiting material formed on top of the layer 12 of thermal barrier material. This carbon deposit inhibiting layer 14 may be coated onto the outer surface 13 of the thermal barrier layer 12. The carbon deposit inhibiting layer 14 may be composed of a non-reactive, non-reducible, refractory oxide material. Primary requirements for this refractory oxide material are high temperature stability to oxidizing combustion gases that may contain up to 20% water vapor and to carbon-rich reducing environments. Such material should also have diffusional stability with respect to the underlying ceramic thermal barrier layer 12. Examples of oxides that meet these criteria are alumina, yttria, ~~yttrium-aluminum-garnet~~, and lanthanum oxide. These oxides are not

reduced by carbon at temperatures below 2000 degrees Centigrade, a temperature well above the use temperature of combustors. Furthermore, these materials exhibit a high degree of stability on the thermal barrier coating 12 due to their good bonding characteristics and their compatible thermal expansion characteristics. The carbon deposit inhibiting layer 14 should have a thickness in the range of one to fifty mils, and in some embodiments from one to five mils.